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Office of the Secretary
U.S. Department of Agriculture
Before the House Committee on Science and Technology
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Mr. Chairman and Members of the Committee:

The Department of Agriculture welcomes the opportunity to present its views on H.R. 8763 and the need to improve the availability and use of weather information in agriculture and forestry. I think it must be obvious to everyone that year-in and year-out farmers and foresters are among the most vulnerable to the vagaries of weather. The losses in agriculture alone have been estimated as high as eight billion dollars annually. The costs of protecting our forest resources from forest fire, which is after all essentially a weather-produced phenomena, amounts to over 600 million dollars each year. When the protection costs are added to the damages which these fires produce, the total forest fire bill rises to over a billion dollars annually. I cite these data, Mr. Chairman, to emphasize that the weather services are of enormous importance and concern to the Department of Agriculture.

When Mr. Bergland became Secretary of Agriculture, one of his major objectives was to upgrade our programs to acquire and apply weather information in agriculture and forestry, especially in the areas of planning and program development. In response to his directions, we have taken several actions in the past year which have placed us in a much better position to meet our weather information requirements than has been the case at any time since the Weather Bureau was transferred from the Department of Agriculture to the Department of Commerce in 1940.

Shortly after taking office, Secretary Bergland met with the then National Oceanic and Atmospheric Administration (NOAA) administrator, Robert White, to discuss how best to proceed on improving weather programs in USDA. As a result of that meeting, we developed a consolidated list of weather information and data requirements representing the needs of all agencies in the Department of Agriculture. These were forwarded to the Secretary of Commerce in January of 1978. The two Secretaries have now agreed on a joint program to meet these requirements. This agreement covers both foreign weather data and the needs of the Department of Agriculture for support from weather satellite technology.

One of the first concrete actions growing out of this agreement has been the creation of a jointly operated world agricultural weather information center located in the Department of Agriculture. This center which is staffed by both NOAA and USDA personnel provides a continuous watch of weather conditions over all agricultural producing areas of the world to provide both early warning of events and episodes that will have an important impact on crop and livestock production and follow-up information on the extent and severity of the damage. This program is in effect for all countries which produce, sell, purchase or consume large amounts of agricultural products. Through the information provided by this center, we hope to improve the pre-harvest production estimates and trade strategies.

A further change which the Secretary has introduced in the Department has been the creation of a formal mechanism for the internal coordination of the weather related programs and activities of all agencies in the Department. This will result in broader utilization of data and services. We are now engaged in an effort to reorient the Large Area Crops Inventory Experiments (LACIE) program to expand its coverage to crops and areas that will more fully exploit its capability in crop condition and acreage assessment. This reorientation will attempt to better integrate the weather information and

satellite imagery to obtain an improved capability for early season estimates. Also, there will be a strong effort in modeling the effects of weather and other factors impacting crop yield.

We have also worked closely with NOAA and other agencies in the development of the National Climate Plan. NOAA has requested that USDA assign a full-time liaison person to the National Climate Program Office and we intend to comply with this request as soon as the appropriate USDA person can be identified for this assignment.

We are also initiating several major efforts to upgrade the weather information that is now provided to the agricultural producers and forest and land resource managers. The Forest Service has already developed a joint pilot experiment with the National Weather Service to better serve fire control planning and decisionmaking in 13 southern states. The Extension Service is exploring a similar pilot program for the agricultural decisionmakers. From such tests, we hope will emerge one USDA-National Weather Service Agricultural-Forest Weather System that will serve all the needs of the renewable natural resource producers and managers.

As we see it, there are three problems in today's weather information services that both NOAA and the USDA must address jointly. Most important, of course, is the problem of the credibility of weather forecasts. The current state of the science and weather prediction is such that weather forecasts for a specific time and location covering a period more than two or three days into the future lose reliability so rapidly that very little systematic use can be made of the information in planning a particular course of action in farming or forestry. Improvements in this situation will require considerable research and development and we shall work with NOAA on this problem particularly for the longer-range forecasts.

A second problem with current weather information is the need to improve its applicability through a higher degree of specialization. Let me cite as an example of this need a problem from forestry. Foresters, especially those managing pine stands in the South, must do vegetative control during the early development of their pine plantations in order to reduce the competition from other vegetation which retards the development of the young trees. Prescribed or controlled burning is a highly effective and relatively inexpensive method for achieving these management objectives; however, the smoke from these fires can become a real nuisance and even a hazard in populated areas if the burning is not conducted under weather conditions which will insure the transport of smoke away from populated areas and rapidly dilute the plume from the fire. This requires that the weather forecast for prescribed burning deal with atmospheric properties which are of little interest to any other recipient or user of weather information; hence, forestry weather information must be highly specialized and localized to the point where the burning will take place--sometimes on a site as small as 40-50 acres.

Finally, there is the need to improve the accessibility of the information. I am told that at the present time, there is a great deal of weather information in the National Weather Service System which cannot be efficiently brought to bear on day to day problems of farmers and foresters simply because it can not be disseminated at the time or to the locations where it is needed. This problem, plus that of improved specialization and localization, are areas where the Forest Service experiment should produce some significant improvements.

With this background of information on the record, Mr. Chairman, I would now like to make a few comments on the provisions of H.R. 8763. The Department of Agriculture has no objection in principal to H.R. 8763. There are, however, some specific areas where changes are needed

to clarify and to strengthen the present bill. First, there is a need to define some of the terms that are either used or implied in H.R. 8763. The bill ought to distinguish between meteorological operations and weather service. The distinction between these two classes of activities will provide a better basis for defining the authority and responsibility of the Secretary of Commerce. As presently written, H.R. 8763 appears to assign to the Secretary of Commerce the sole responsibility for and authority over all weather-related activities of the Federal Government. As I have outlined previously, the Department of Agriculture believes that the most effective means for meeting its weather information requirements lies in close cooperative efforts between the Department of Agriculture and Department of Commerce. We propose that the term "meteorological operations" be used to describe those activities that are required in order to measure, specify and predict the physical state of the atmosphere. Weather Service, on the other hand, is aimed at deriving those factors, indexes or measures which will enable the operator to establish the impact of weather conditions on various activities and processes. Under these definitions, I believe it is clear that meteorological operations which involve highly technical-scientific activities such as forecasting must be performed by professional meteorologists. Weather service, on the other hand, requires not only a thorough knowledge of meteorology but also an intimate familiarity with those operations or activities to which the weather information is to be applied. For example, agricultural weather service requires both agricultural and meteorological knowledge and fire weather service must involve professionals who are forest fire behavior experts and meteorologists who are experienced in fire fighting operations. For this reason, Mr. Chairman, we feel that H.R. 8763 should assign the responsibility for meteorological operations to the Secretary of Commerce, whereas the assignment of responsibility for the conduct

of specialized weather service activities should recognize the importance of the role of the user agencies, e.g. Federal Aviation Administration, certain agencies of the Department of Agriculture such as the U.S. Forest Service, Coast Guard, Department of Defense, etc., in the provision of weather services to support the programs and weather sensitive decisions of these agencies. Specifically, these agencies should be permitted to conduct those weather service activities that are unique to their mission accomplishment.

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